

THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

FISH BULLETIN No. 117

THE MARINE FISH CATCH OF CALIFORNIA

For the Year 1960

BY THE BIOSTATISTICAL SECTION
MARINE RESOURCES OPERATIONS



1961

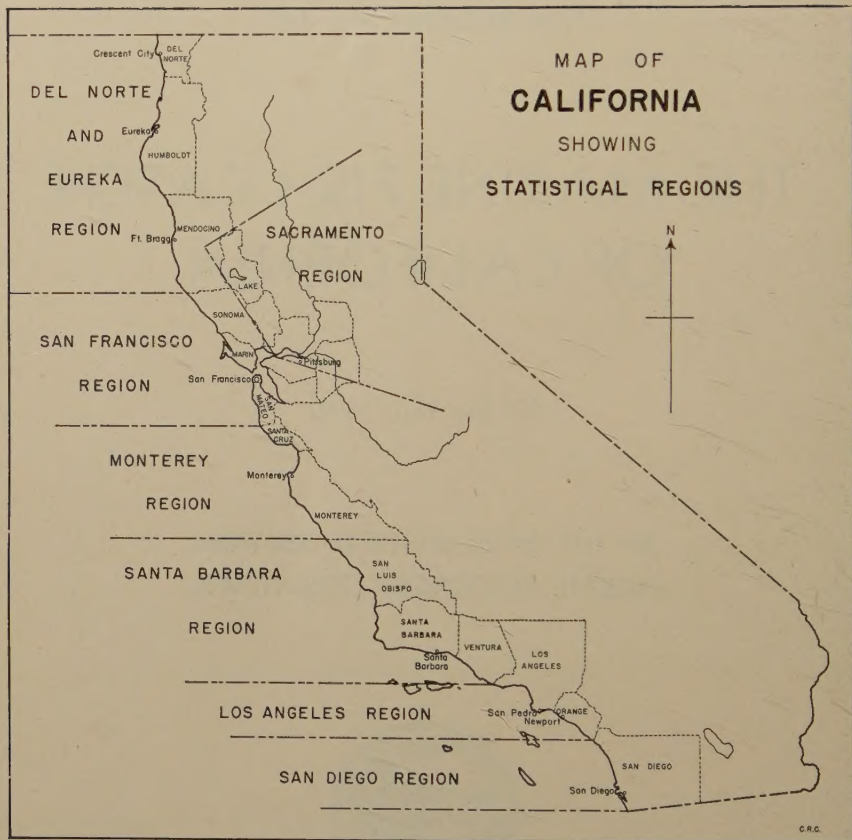


FIGURE 1

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FOREWORD

Catch Bulletins provide records of California's commercial fisheries and their value to fishermen. They also summarize the marine party boat anglers' sport catch.

This report for 1960 is the 20th in the series. Prior records have been published regularly beginning with those for 1926 and 1927. In recent years, a need for faster publication of catch statistics has made it desirable to publish annually instead of biennially.

Bulletin titles have varied slightly through the years. The first 15, for the years 1926 through 1952, were entitled "The commercial fish catch of California" but since 1953 bulletins have been entitled "The marine fish catch of California". Addition of marine sport catch information to bulletins influenced this title change to more accurately describe the bulletins' scope.

Each commercial fish dealer makes a quadruplicate record of every catch he receives from fishermen, and one copy is promptly sent to the Department of Fish and Game. Each party-boat operator records each trip's catch and these records are also sent to the Department. This complete enumeration of the catch insures greater accuracy than any known sampling plan. After several intermediate steps, basic data are summarized with the Department's I.B.M. punch card facilities into essentially the same form as the tables published in this bulletin.

Published figures are of national and international concern, but they are used primarily by fisheries scientists and legislators to effectively manage and regulate California's important fisheries. Chambers of commerce, members of the fishing industry, educators, and others also find the catch statistics of considerable value in meeting their respective needs.

EXPLANATION OF TABLES

In California, almost all fish and shellfish are landed whole or "in the round". An exception is salmon which is cleaned by removing entrails and gills at sea to insure that this very valuable fish is of the highest quality when marketed. Condition of other fish landed cannot always be determined. All poundages of fin fish, including salmon, listed in this bulletin are as reported, irrespective of condition. Some varieties of shellfish are reported to the Department by counts, cleaned weight, or units of measurement other than pounds. All such figures are converted to round weights using appropriate conversions. The conversion factors are determined by sampling at delivery points. Factors are changed when regulations, biological, or economic conditions alter the size of the individual species landed. In 1960, factors for the eight most important shellfish were:

Abalone, red	50 lbs. per doz.
Abalone, pink	25 lbs. per doz.
Abalone, green	35 lbs. per doz.
Clams, Mexican Pismo	8 lbs. round wt. per 1 lb. cleaned wt.
Clams, Washington	7 lbs. per doz.
Crab, market	2 lbs. each
Oyster, eastern	30 lbs. per 100 oysters
Oyster, giant Pacific	50 lbs. per 100 oysters

The value of each variety of fish and shellfish has been computed from prices paid to the fishermen. This operation is performed by an I.B.M. Model 650 computer. Values do not reflect the cost of trucking, unloading, ice or other items which may be deducted from the basic prices. When an amount is unspecified, the average price for that variety in its statistical area is used (Figure 1).

Some varieties are reported collectively when, for economic or other reasons, dealers are unable to provide a specific separation (Table 1). For example silver salmon and king salmon are combined because the price is based on size and the dealers do not distinguish species.

Landings from the Sacramento area, chiefly carp and hardhead, have been combined with those in the San Francisco area, a practice that will be continued as long as the Sacramento area totals remain at their present low magnitude.

There are 23 tables in this bulletin. Eighteen summarize the final 1960 records of fish, mollusks, and crustaceans landed in California by the commercial fleet, and similar items imported for processing. Stringent laws require records of all fish destined for processing be reported to the Department, but the laws do not include imported fish for fresh-sale. This latter record is therefore incomplete. Processing refers to canning, smoking, pickling, drying, and reduction into meal and oil.

One table shows the common and scientific names of the fish and shellfish included in this report (Table 1). Overall trends in the commercial catch from 1916 through 1960 are shown two ways (Table 2

and Figure 2). Ranked pounds and values for 1960 along with reprinted 1959 figures for comparison comprise Table 3. Similar comparisons of fishermen's areas of residence (Table 4) and for lengths of fishing boats (Table 5) are made.

Poundages for 1960 are recorded by species and statistical area (Tables 6-14). Values appear in Tables 15-21.

Catches of the most important species made by marine party-boat sportfishermen and the number of anglers each year in the 10-year period through 1960 are shown in Table 22. Table 22 has been revised this year to show number of anglers instead of angler days formerly recorded. Number of anglers was considered to be more meaningful, so angler days will no longer be computed. For previous years (1951-1959) angler days were converted to anglers by multiplying with a factor of 1.2348. The amount of live bait used by marine sportsmen is shown in Table 23, the final one.

TABLE 1

Common and Scientific Names of Fishes, Crustaceans, and Mollusks in the 1960 Catch

Common name	Scientific name	Common name	Scientific name
FISHES			
Anchovy	<i>Engraulis mordax</i>	Shark	
Barracuda, California	<i>Sphyrna argentea</i>	Basking	<i>Cetorhinus maximus</i>
Bonito	<i>Sarda chiliensis</i>	Bonito	<i>Isurus glaucus</i>
Cabezon	<i>Scorpaenichthys marmoratus</i>	Dogfish	<i>Squalus acanthias</i>
Cabrilla	<i>Epinephelus analogus</i>	Leopard	<i>Triakis semifasciata</i>
Carp	<i>Cyprinus carpio</i>	Southern	<i>Galeorhinus zyopterus</i>
Croaker, white	<i>Genyonemus lineatus</i>	Thresher	<i>Alopias vulpinus</i>
Small amounts of queenfish	<i>Seriophus politus</i>	Varying amounts of others	
Flounder		Sheep-head	<i>Pimelotopon pulchrum</i>
Starry flounder	<i>Platichthys stellatus</i>	Skate	
Small amounts of other flatfishes		Big	<i>Raja binoculata</i>
Flyingfish	<i>Cypselurus californicus</i>	California	<i>Raja inornata</i>
Grouper	<i>Mycteroperca species</i>	Longnose	<i>Raja rhina</i>
Hake	<i>Merluccius productus</i>	Smelt	
Halibut	<i>Medialuna californiensis</i>	Grunion	<i>Leuresthes tenuis</i>
Halibut, arrowtooth	<i>Atheresthes stomias</i>	Jacksmelt	<i>Atherinopsis californiensis</i>
Halibut, California	<i>Paralichthys californicus</i>	Surf	<i>Hypomesus pretiosus</i>
Halibut, Pacific	<i>Hippoglossus stenolepis</i>	Topsmelt	<i>Atherinops affinis</i>
Hardhead		Sole	
Sacramento black-fish	<i>Orthodon microlepidotus</i>	Dover	<i>Microstomus pacificus</i>
Hardhead	<i>Mylopharodon conocephalus</i>	English	<i>Parophrys vetulus</i>
Herring, Pacific	<i>Clupea pallasii</i>	Petrale	<i>Eopsetta jordani</i>
Lingcod	<i>Ophiodon elongatus</i>	Rex	<i>Glyptocephalus zachirus</i>
Mackerel, jack	<i>Trachurus symmetricus</i>	Sand	<i>Psettichthys melanostictus</i>
Mackerel, Pacific	<i>Pneumatophorus diego</i>	Varying amounts of others	
Opaleye	<i>Girella nigricans</i>	Splittail	<i>Pogonichthys macrolepidotus</i>
Perch	Members of family Embiotocidae	Sturgeon	<i>Acipenser species</i>
Pompano, California	<i>Palometa simillima</i>	Swordfish	<i>Xiphias gladius</i>
Ratfish	<i>Hydrolagus coliei</i>	Tuna	
Rockbass		Albacore	<i>Thunnus germon</i>
Kelp bass	<i>Paralabraz clathratus</i>	Bigeye	<i>Parathunnus sibi</i>
Sand bass	<i>Paralabraz nebulifer</i>	Bluefin	<i>Thunnus saliens</i>
Rockfish	All species of <i>Sebastes</i> and <i>Sebastes</i>	Oriental	<i>Thunnus orientalis</i>
Sablefish	<i>Anoplopoma fimbria</i>	Skipjack	<i>Katsuwonus pelamis</i>
Salmon		Yellowfin	<i>Neothunnus macropterus</i>
King	<i>Oncorhynchus tshawytscha</i>	Turbot	
Silver	<i>Oncorhynchus kisutch</i>	Curlfin	<i>Pleuronichthys decurrens</i>
Sanddab	<i>Citharichthys sordidus</i>	Diamond	<i>Hypospsetta guttulata</i>
Sardine	<i>Sardinops caerulea</i>	Hornhead	<i>Pleuronichthys verticalis</i>
Sargo, California	<i>Anisotremus davidsoni</i>	Small amounts of others	
Sculpin	<i>Scorpaena guttata</i>	Wahoo	<i>Acanthocybium solandri</i>
Sculpin, staghorn	<i>Leptocottus armatus</i>	Whitebait	<i>Allosmerus elongatus</i>
Sea bass, black	<i>Stereolepis gigas</i>		<i>Spirinchus starksi</i>
Seabass, white	<i>Cynoscion nobilis</i>	Young of several others	
Shad	<i>Alosa sapidissima</i>	Whitefish, ocean	<i>Caulolatilus princeps</i>
		Yellowtail	<i>Seriola dorsalis</i>
CRUSTACEANS			
Crab	<i>Cancer magister</i>	Prawn	<i>Pandalus platyceros</i>
Crab, rock	<i>Cancer productus</i>	Shrimp, bay	<i>Crango franciscorum</i>
	<i>Cancer antennarius</i>		<i>Crango nigricauda</i>
	<i>Cancer anthonyi</i>	Shrimp, ocean	<i>Pandalus jordani</i>
Lobster, spiny	<i>Panulirus interruptus</i>	Small amounts of others	
MOLLUSKS			
Abalone		Clam—Continued	
Pink	<i>Haliotis corrugata</i>	Pismo	<i>Tivela stultorum</i>
Red	<i>Haliotis rufescens</i>	Washington	<i>Saxidomus nuttalli</i>
Green	<i>Haliotis fulgens</i>	Octopus	<i>Paroctopus appollyon</i>
White	<i>Haliotis sorenseni</i>	Oyster	
Clam		Eastern	<i>Crassostrea virginica</i>
Gaper	<i>Schizothaerus nuttalli</i>	Giant Pacific	<i>Crassostrea gigas</i>
Jackknife	<i>Tagelus californianus</i>	Squid	<i>Loligo opalescens</i>

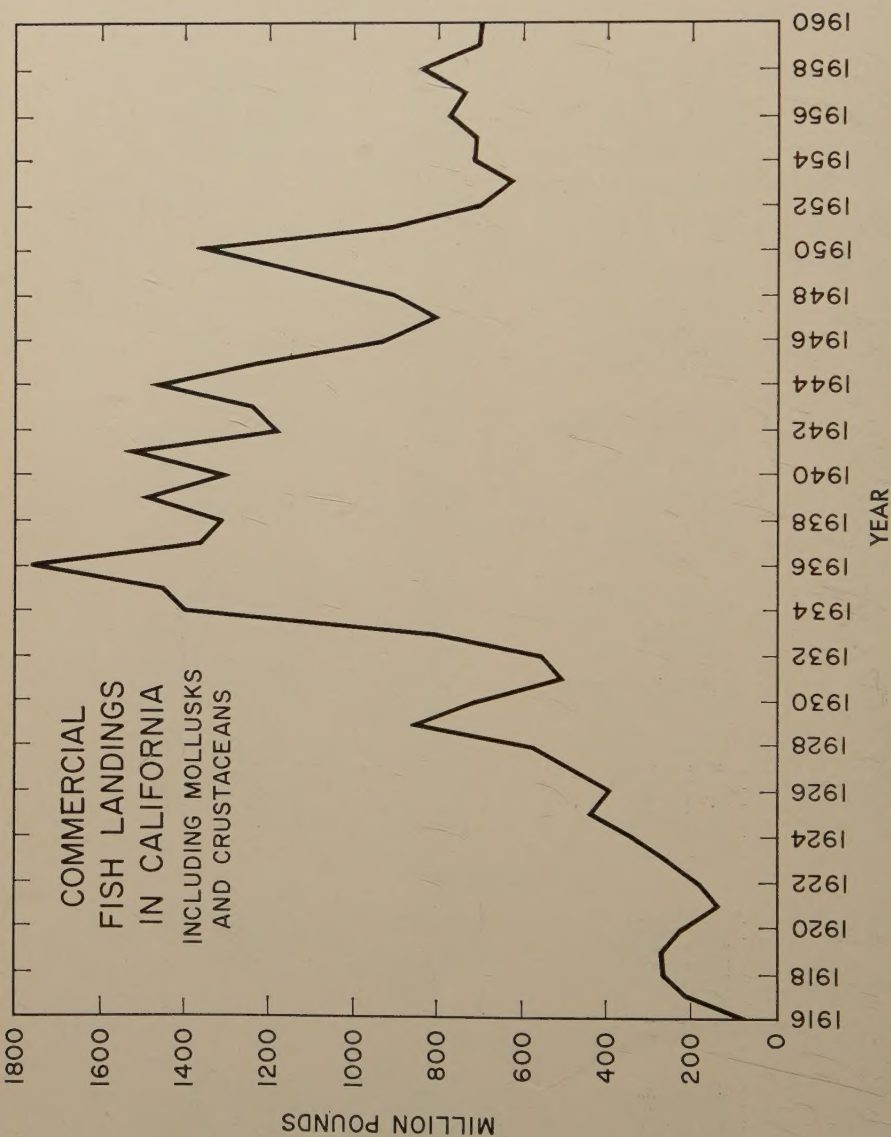


FIGURE 2. Total annual landings and shipments into California. Includes sardine deliveries to reduction ships 1930-38. See Table 2.

TABLE 2

Total Annual Landings and Shipments Into California of Commercial Fish, Mollusks, and Crustaceans, Includes Sardine Deliveries to Reduction Ships During 1930 Through 1938

Year	Thousands of pounds	Year	Thousands of pounds
1916.....	95,003	1941.....	1,529,148
1917.....	209,877	1942.....	1,173,414
1918.....	261,134	1943.....	1,234,049
1919.....	266,270	1944.....	1,459,446
1920.....	222,004	1945.....	1,216,467
1921.....	135,348	1946.....	919,850
1922.....	182,343	1947.....	795,499
1923.....	253,875	1948.....	900,540
1924.....	340,446	1949.....	1,135,325
1925.....	437,502	1950.....	1,366,596
1926.....	394,964	1951.....	904,088
1927.....	487,166	1952.....	694,977
1928.....	583,527	1953.....	618,899
1929.....	856,854	1954.....	713,406
1930.....	702,189	1955.....	710,714
1931.....	502,390	1956.....	772,549
1932.....	556,139	1957.....	738,550
1933.....	821,805	1958.....	832,919
1934.....	1,390,799	1959.....	713,491
1935.....	1,448,017	1960.....	694,663
1936.....	1,764,900		
1937.....	1,362,984		
1938.....	1,310,596		
1939.....	1,486,535		
1940.....	1,297,517		

TABLE 3
Landings and Shipments of Leading Species Ranked by Pounds and Value

Species	1959			1960		
	Thousands of pounds	Rank	Thousands of dollars	Species	Thousands of pounds	Rank
Yellowfin tuna.....	210,992	1	\$27,662	Yellowfin tuna.....	272,648	1
Skipjack.....	146,210	2	15,388	Jack mackerel.....	74,945	2
Sardine.....	74,367	3	1,475	Skipjack.....	74,799	3
Albacore.....	62,482	4	11,382	Albacore.....	71,452	4
Pacific mackerel.....	37,602	5	958	Sardine.....	57,553	5
Jack mackerel.....	37,507	6	897	Pacific mackerel.....	36,809	6
Squid.....	19,653	7	342	Market crab.....	14,876	7
Market crab.....	17,262	8	2,576	Rockfish.....	13,714	8
Bluefin tuna.....	15,817	9	1,953	Bluefin tuna.....	13,180	9
Rockfish.....	15,281	10	710	Giant Pacific oyster.....	10,687	10
Giant Pacific oyster.....	13,759	11	305	Dover sole.....	9,185	11
Dover sole.....	7,327	12	394	Salmon.....	6,506	12
Anchovy.....	7,174	13	100	Anchovy.....	5,059	13
Salmon.....	6,885	14	3,097	Abalone.....	4,266	14
English sole.....	4,617	15	312	Sablefish.....	2,910	15
Abalone.....	4,562	16	497	Squid.....	2,561	16
White seabass.....	3,423	17	463	Petrale sole.....	2,476	17
Bonito.....	3,012	18	118	English sole.....	2,375	18
Petrale sole.....	2,632	19	280	Ocean shrimp.....	2,027	19
Sablefish.....	2,239	20	148	Pacific herring.....	1,801	20
All others.....	20,688		2,052	All others.....	14,854	
Totals.....	713,491		\$71,109	Totals.....	694,663	
					\$70,338	

TABLE 4
Licensed Commercial Fishermen

Area of residence	Number of fishermen by season ¹	
	1959-1960	1960-1961
Eureka.....	936	1,126
Sacramento.....	111	91
San Francisco.....	1,154	1,185
Monterey.....	727	677
Santa Barbara.....	534	566
Los Angeles.....	2,271	2,190
San Diego.....	1,592	1,506
Alaska, Washington and Oregon fishermen licensed in California.....	555	565
Mexican nationals licensed in California.....	24	22
Other registry.....	25	23
Totals.....	7,929	7,951

¹ The season is from April 1 to March 31.

TABLE 5
Number of Fishing Boats by Length

Season ¹	Up to 24 feet	25 to 39 feet	40 to 64 feet	65 to 84 feet	85 to 99 feet	100 feet and over	Total
1959-1960.....	631	1,698	1,054	139	47	103	3,672 ²
1960-1961.....	694	1,620	1,052	135	48	100	3,649 ³

¹ The season is from April 1 to March 31.

² The owners of 569 boats were issued fishing party licenses in 1959-60.

³ The owners of 530 boats were issued fishing party licenses in 1960-61.

TABLE 6
Origin of Shipments of Fresh Fish Into California During 1960

Shipped from: Species	Pounds shipped to each area			Total pounds
	San Francisco	Los Angeles	San Diego	
Continental United States:				
Miscellaneous fish.....	---	148,160	---	148,160
Oregon, Washington, Canada and Alaska:				
Sablefish.....	---	490,990	---	490,990
Salmon.....	---	284,733	---	284,733
Shad.....	4,593	32,418	---	37,011
Sturgeon.....	---	5,774	---	5,774
Miscellaneous fish.....	---	36,000	---	36,000
Mexico and Central America:				
Swordfish.....	---	7,212	---	7,212
Tuna, albacore.....	69,309	6,099,056	2,249	6,170,614
Tuna, bigeye.....	---	1,285	---	1,285
Tuna, skipjack.....	---	1,119,505	945,935	2,065,440
Tuna, yellowfin.....	845,908	8,469,213	1,580,687	10,895,808
Mollusk:				
Clam, Pismo.....	---	525,392	---	525,392
South America:				
Tuna, skipjack.....	---	17,391,433	8,639,753	26,031,186
Tuna, yellowfin.....	---	6,995,070	5,710,851	12,705,921
Trinidad:				
Tuna, yellowfin.....	---	935,638	---	935,638
South Pacific (New Hebrides, Fiji):				
Tuna, albacore.....	---	1,826,089	---	1,826,089
Tuna, yellowfin.....	739,015	552,898	---	1,291,913
Borneo:				
Tuna, skipjack.....	109,833	86,425	---	196,258
Tuna, yellowfin.....	200,746	2,767	---	203,513
Japan:				
Tuna, albacore.....	2,917,472	20,872,818	4,478,464	28,268,754
Tuna, bigeye.....	---	60,175	23,756	83,931
Tuna, oriental.....	211,680	24,449	---	236,129
Tuna, skipjack.....	27,300	168,469	---	195,769
Tuna, yellowfin.....	16,537,384	34,396,489	1,973,928	52,907,801
Australia:				
Tuna, bluefin.....	997,348	196,796	33,627	1,227,771
China (Formosa):				
Tuna, albacore.....	53,220	---	---	53,220
Tuna, yellowfin.....	1,110,360	148,865	---	1,259,225
Africa:				
Tuna, albacore.....	---	20,871	---	20,871
Tuna, skipjack.....	---	6,288	---	6,288
Tuna, yellowfin.....	---	3,141,425	---	3,141,425
Total pounds.....	23,824,168	104,046,703	23,389,250	151,260,121

TABLE 7

Origin of Commercial Fish Landings and Shipments Into California During 1960

Species	Landings from				Shipments ¹	Grand total
	California waters	Waters north of State	Waters south of State	Total pounds		
Fish:						
Anchovy	5,058,603	---	---	5,058,603	---	5,058,603
Barracuda, California	1,147,831	---	81,837	1,229,668	---	1,229,668
Bonito	1,219,682	---	30,862	1,250,544	---	1,250,544
Cabazon	3,060	---	---	3,060	---	3,060
Cabrilla	---	---	11,896	11,896	---	11,896
Carp	318,599	---	---	318,599	---	318,599
Croaker, white	1,078,119	---	---	1,078,119	---	1,078,119
Flounder	257,499	1,539	---	259,038	---	259,038
Flyingfish	70,881	---	---	70,881	---	70,881
Grouper	---	---	254,529	254,529	---	254,529
Hake	297,993	27,095	---	325,088	---	325,088
Halibmoon	2,904	---	---	2,904	---	2,904
Halibut, arrowtooth	828,910	178,769	---	1,007,679	---	1,007,679
Halibut, California	366,191	---	10,072	376,263	---	376,263
Halibut, Pacific	4,916	---	---	4,916	---	4,916
Hardhead	175,432	---	---	175,432	---	175,432
Herring, Pacific	1,800,672	---	---	1,800,672	---	1,800,672
Lingcod	1,229,022	78,051	---	1,307,073	---	1,307,073
Mackerel, jack	74,945,453	---	---	74,945,453	---	74,945,453
Mackerel, Pacific	36,808,540	---	150	36,808,690	---	36,808,690
Opaleye	1,208	---	---	1,208	---	1,208
Perch	164,178	---	95	164,273	---	164,273
Pompano, California	15,429	---	---	15,429	---	15,429
Ratfish	600	---	---	600	---	600
Rockfish	13,266,150	329,203	118,533	13,713,886	---	13,713,886
Sablefish	2,228,732	190,292	---	2,419,024	490,990	2,910,014
Salmon	6,220,373	1,072	---	6,221,445	284,733	6,506,178
Sanddab	346,333	2,040	---	348,373	---	348,373
Sardine	57,532,719	---	---	57,532,719	---	57,532,719
Sargo	222	---	---	222	---	222
Sculpin	29,203	---	---	29,203	---	29,203
Sculpin, staghorn	316	---	---	316	---	316
Sea bass, black	20,565	---	221,125	241,690	---	241,690
Seabass, white	1,086,895	---	149,303	1,236,198	---	1,236,198
Shad	---	---	---	---	37,011	37,011
Shark	669,184	---	25,007	694,191	---	694,191
Sheep-head	4,288	---	452	4,740	---	4,740
Skate	146,934	---	---	146,934	---	146,934
Smelt	429,299	---	---	429,299	---	429,299
Sole, Dover	7,980,119	1,204,695	---	9,184,814	---	9,184,814
Sole, English	2,340,568	34,815	---	2,375,383	---	2,375,383
Sole, petrale	2,359,747	115,873	---	2,475,620	---	2,475,620
Sole, rex	1,078,643	28,729	---	1,107,372	---	1,107,372
Sole, sand	72,727	737	---	73,464	---	73,464
Sole, miscellaneous	228,066	---	---	228,066	---	228,066
Splittail	675	---	---	675	---	675
Sturgeon	---	---	---	---	5,774	5,774
Swordfish	320,143	---	4,611	324,754	7,212	331,966
Tuna, albacore	32,056,980	69,104	2,986,543	35,112,627	36,339,548	71,452,175
Tuna, bigeye	---	---	---	---	85,216	85,216
Tuna, bluefin	4,339,031	---	7,613,480	11,952,511	1,227,771	13,180,282
Tuna, oriental	---	---	---	---	236,129	236,129
Tuna, skipjack	24,199	---	46,279,495	46,303,694	28,494,941	74,798,635
Tuna, yellowfin	10,482	---	189,296,372	189,306,854	83,341,244	272,648,098
Turbot	62,438	---	---	62,438	---	62,438
Wahoo	---	---	15,917	15,917	---	15,917
Whitebait	168,458	---	---	168,458	---	168,458
Whitefish, ocean	2,550	---	968	3,518	---	3,518
Yellowtail	156,518	---	92,115	248,633	---	248,633
Miscellaneous fish	64,885	---	97	64,982	184,160	249,142

TABLE 7—Continued

Origin of Commercial Fish Landings and Shipments Into California During 1960

Species	Landings from				Shipments ¹	Grand total
	California waters	Waters north of State	Waters south of State	Total pounds		
Crustacean:						
Crab, market.....	14,869,475	6,673	----	14,876,148	----	14,876,148
Crab, rock.....	120,903	----	----	120,903	----	120,903
Lobster, spiny.....	351,032	----	----	351,032	----	351,032
Prawn.....	147	----	----	147	----	147
Shrimp, bay.....	1,580	----	----	1,580	----	1,580
Shrimp, ocean.....	2,019,457	7,330	----	2,026,787	----	2,026,787
Mollusk:						
Abalone.....	4,266,408	----	----	4,266,408	----	4,266,408
Clam, gaper.....	488	----	----	488	----	488
Clam, jackknife.....	6,988	----	----	6,988	----	6,988
Clam, Pismo.....	----	----	----	----	525,392	525,392
Clam, Washington.....	1,655	----	----	1,655	----	1,655
Octopus.....	1,610	----	----	1,610	----	1,610
Oyster, eastern.....	2,072	----	----	2,072	----	2,072
Oyster, giant Pacific.....	10,686,856	----	----	10,686,856	----	10,686,856
Squid.....	2,561,520	----	----	2,561,520	----	2,561,520
Miscellaneous mollusk.....	120	----	----	120	----	120
Total pounds.....	293,933,475	2,276,017	247,193,459	543,402,951	151,260,121	694,663,072

¹ For origin of shipments refer to Table 6.

TABLE 8
Monthly Landings and Shipments Into California During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS:													
Fish:													
Anchovy.....	653,605	854,980	580,840	380,410	255,315	103,988	554,225	338,730	608,980	315,799	137,730	274,001	5,058,603
Barracuda, California.....	36,044	40,913	103,554	125,870	211,133	350,010	57,378	47,480	68,291	74,928	71,096	42,973	1,229,668
Bonito.....	60,518	294,786	229,792	50,263	23,819	67,686	37,495	156,446	31,893	37,374	109,506	151,016	1,250,544
Cabazon.....	430	---	1,092	673	424	8	---	---	132	---	68	223	3,060
Cabrilla.....	845	---	---	---	---	---	---	---	---	---	8,855	2,216	11,896
Carp.....	31,093	18,235	30,215	38,695	29,885	20,145	16,180	7,755	25,985	21,550	19,395	59,466	318,599
Croaker, white.....	633,851	43,089	88,542	31,539	59,553	47,390	35,131	28,189	42,740	21,652	9,166	37,177	1,078,119
Flounder.....	19,569	3,937	57,813	10,392	3,849	11,017	34,370	11,089	17,147	22,437	24,937	42,776	259,038
Flyingsh.....	---	---	---	---	---	27,006	18,513	9,149	1,080	760	70,881	---	70,881
Grouper.....	41,110	19,783	32,854	14,116	2,995	787	---	---	---	1,206	76,763	64,915	254,529
Hake.....	10,796	---	---	9,925	7,562	22,290	27,192	43,358	63,221	113,838	23,681	3,225	325,088
Halibut.....	644	530	---	46	---	37	---	220	---	12	---	1,415	2,904
Halibut, arrowtooth.....	16,559	15,879	43,373	35,064	107,162	166,536	161,063	120,710	141,288	152,060	34,858	13,097	1,007,679
Halibut, California.....	33,667	37,969	55,135	41,573	24,657	27,371	19,276	24,768	12,411	27,251	30,595	41,590	376,263
Halibut, Pacific.....	---	---	---	---	874	1,580	643	505	332	946	36	---	4,916
Hardhead.....	15,906	50,183	30,309	23,008	15,975	2,495	531	1,905	4,800	9,190	7,730	---	175,432
Herring, Pacific.....	1,155,435	200,767	600	153,894	79,509	107,451	69,721	19,451	8,609	---	---	5,235	1,800,672
Lingcod.....	30,729	21,737	68,437	111,810	148,446	148,446	184,014	232,193	224,121	142,577	53,296	45,197	1,307,073
Mackerel, jack.....	10,905,072	4,838,833	15,718,178	3,908,209	1,253,890	991,755	782,436	4,938,345	6,283,281	6,137,301	14,009,355	5,198,798	71,945,453
Mackerel, Pacific.....	3,433,483	2,054,381	2,613,719	988,263	361,397	727,105	838,637	4,289,264	5,991,338	9,489,297	3,384,635	2,637,171	36,808,690
Opaleye.....	122	260	---	---	58	188	---	---	---	---	---	580	1,208
Perch.....	7,651	7,233	38,778	41,222	67	24	20,987	19,730	12,202	8,112	3,038	5,219	164,273
Pompano, California.....	1,720	253	106	1,561	515	2,945	---	371	2,670	1,900	1,250	1,173	15,429
Ratfish.....	---	---	---	---	---	---	---	---	600	---	---	---	600
Rockfish.....	887,348	900,783	1,428,141	1,171,537	1,270,811	1,359,821	1,247,110	1,037,451	1,172,498	1,167,622	1,085,272	1,007,662	13,713,886
Sablefish.....	98,653	75,931	200,028	198,162	159,500	161,098	222,481	222,789	263,201	316,231	264,480	227,461	2,419,024
Salmon.....	---	---	---	422,129	1,135,542	1,456,615	1,913,081	1,097,881	266,187	---	---	---	6,221,445
Sandbar.....	13,819	7,910	31,334	21,826	14,344	37,713	43,282	56,900	43,105	50,517	28,894	38,758	318,373
Sardine.....	373,785	276,579	419,459	398,600	433,302	284,061	265,701	4,867,158	23,041,293	16,267,322	8,333,276	2,598,883	57,532,719
Sargo.....	122	---	---	---	90	10	---	---	---	---	---	---	222
Sculpin.....	28	263	2,631	1,141	1,022	6,328	6,628	3,287	2,228	1,569	2,224	1,854	29,203
Sculpin, staghorn.....	---	---	---	---	---	---	---	---	---	65	---	38	316
Sea bass, black.....	10,972	10,099	6,161	9,034	4,749	23,772	3,870	35,192	23,217	60,644	14,596	39,384	241,690
Seabass, white.....	109,601	116,986	33,362	51,791	26,286	42,358	60,774	293,978	224,490	101,797	98,168	76,607	1,236,198
Shark.....	43,777	22,994	27,437	68,108	75,447	124,680	52,874	43,821	57,581	45,726	64,316	67,430	694,191

TABLE 8—Continued
Monthly Landings and Shipments Into California During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS:—Continued													
Fish:—Continued													
Sheep-head.....	438	656	785	43	180	373	172	73	501	213	499	807	4,740
Skate.....	4,805	3,475	18,424	20,318	14,235	12,803	11,140	18,780	10,565	9,510	15,278	7,601	146,934
Smelt.....	21,784	6,440	21,784	12,539	12,395	41,030	69,677	92,913	73,356	24,135	5,191	48,727	429,299
Sole, Dover.....	102,829	147,581	578,562	952,299	921,110	858,788	1,360,987	1,343,532	1,287,089	1,044,521	442,871	145,130	9,181,814
Sole, English.....	106,057	77,995	202,176	166,343	188,332	148,526	184,608	208,464	217,050	289,513	106,842	389,477	2,375,383
Sole, petrale.....	243,591	126,230	115,323	96,366	103,885	189,133	290,730	186,494	176,120	261,104	246,877	439,767	2,475,620
Sole, rex.....	92,287	109,292	134,673	71,262	90,930	65,200	71,767	88,545	97,777	119,291	76,262	90,106	1,107,372
Sole, sand.....	479	145	2,159	1,047	805	2,495	2,456	5,350	7,092	16,556	20,586	13,304	73,464
Sole, miscellaneous.....	1,674	1,231	1,873	1,640	13,901	25,069	17,682	21,305	34,205	43,975	20,888	35,623	228,066
Spittail.....	353	159	40	---	---	---	---	---	---	---	---	123	675
Swordfish	---	---	---	---	419	59,729	48,160	91,354	95,932	28,850	310	---	324,754
Tuna, albacore.....	---	---	---	---	---	126,383	4,109,165	18,245,400	7,520,908	3,762,017	1,310,625	38,129	35,112,627
Tuna, bluefin.....	142,842	133,574	2,338	---	42	2,196,953	4,037,493	2,159,648	1,602,115	1,194,210	473,241	10,065	11,952,511
Tuna, skipjack.....	3,049,367	3,496,921	4,430,688	2,385,760	854,882	5,712,860	6,869,428	4,021,188	3,330,884	5,404,675	3,895,767	2,852,274	46,303,694
Tuna, yellowfin.....	9,911,984	16,983,418	26,315,329	17,874,721	24,058,364	21,918,014	15,068,263	5,666,156	7,119,169	11,973,864	11,750,446	20,637,126	189,306,854
Turbot	3,316	1,594	2,113	2,636	2,448	2,020	6,135	8,195	6,605	8,076	11,797	7,503	62,438
Wahoo	---	3,479	1,039	---	8,140	---	---	---	---	---	---	3,259	15,917
Whitebait	4,270	17,895	33,104	32,600	43,703	23,763	5,008	5,524	2,466	---	---	125	168,458
Whitefish, ocean	887	45	1,258	126	40	229	170	15	---	260	213	275	3,518
Yellowtail	17,221	20,231	3,008	15,617	24,601	12,868	7,368	10,571	44,635	36,428	29,441	26,644	248,633
Miscellaneous fish	43,358	56	117	100	388	187	108	119	4,955	4,610	1,822	9,162	64,982
Crustacean:													
Crab, market.....	4,485,151	1,519,757	2,656,813	1,568,557	1,367,816	206,139	11,980	11,713	8,066	8,134	1,370,786	1,689,149	14,876,148
Crab, rock.....	8,464	9,495	16,202	10,376	10,704	15,407	12,640	---	---	119,456	6,770	6,770	120,903
Lobster, spiny.....	39,648	37,667	21,038	---	---	---	---	---	---	---	71,774	61,449	351,032
Prawn.....	---	---	---	---	---	35	112	215	300	535	395	135	147
Shrimp, bay.....	---	---	---	---	340,528	242,439	490,750	608,593	326,327	18,150	---	---	1,580
Shrimp, ocean.....	---	---	---	---	---	---	---	---	---	---	---	---	2,026,787
Mollusk:													
Abalone.....	322,403	---	345,051	317,271	383,960	592,759	418,685	457,270	429,634	348,118	301,683	349,574	4,266,408
Clam, gaper.....	20	80	40	---	---	---	---	---	---	248	40	60	488
Clam, jackknife.....	161	278	564	750	1,174	1,243	723	767	785	345	103	96	6,988
Clam, Washington.....	174	254	596	272	78	---	---	---	---	162	---	119	1,655

Octopus.....	55	624	299	80	300	85	227	130	---	---	191	243	1,610
Oyster, eastern.....	640	---	501	112	75	---	---	---	---	---	120	120	2,072
Oyster, giant Pacific.....	1,337,783	1,145,339	1,180,461	1,174,957	675,181	433,307	256,137	336,049	509,770	1,053,950	1,259,284	1,324,829	10,686,856
Squid.....	78,796	9,800	75,005	257,160	39,175	350,045	472,650	868,060	212,306	3,275	112,369	84,885	2,561,320
Miscellaneous mollusk.....	---	8	24	---	---	53	---	20	---	---	---	20	120
Total pounds.....	38,657,009	33,768,307	58,010,267	33,194,569	34,843,905	39,540,452	40,480,999	52,292,588	61,754,427	60,363,986	49,524,927	40,971,425	543,402,951
SHIPMENTS:¹													
Fish:													
Sablefish.....	---	15,000	105,794	---	---	16,123	11,323	64,982	40,916	167,848	63,308	5,696	490,990
Salmon.....	---	64,692	45,496	---	---	---	40,435	59,329	69,087	---	5,694	---	284,733
Shad.....	---	---	---	---	4,840	8,148	24,023	---	---	---	---	---	37,011
Sturgeon.....	---	289	187	---	1,795	---	1,408	---	730	---	2,065	---	5,774
Swordfish.....	---	---	---	---	1,730	---	---	---	---	---	2,900	1,852	7,212
Tuna, albacore.....	3,536,309	5,120,785	7,002,265	4,452,260	3,850,433	1,002,400	923,407	966,900	648,731	1,888,697	3,508,535	3,438,826	36,339,548
Tuna, bigeye.....	---	---	9,820	---	---	---	---	50,355	22,756	---	---	1,285	83,216
Tuna, bluefin.....	23,220	---	---	337,140	347,868	---	519,543	---	---	---	---	---	1,227,771
Tuna, oriental.....	---	34,449	---	2,010	139,670	---	---	---	---	---	---	---	236,129
Tuna, skipjack.....	4,538,591	1,034,269	279,659	2,739,164	2,504,770	1,971,091	2,887,929	5,279,723	3,515,019	2,764,519	598,731	381,476	28,394,941
Tuna, yellowfin.....	5,401,056	5,126,994	6,001,044	8,600,774	7,800,213	10,853,681	7,607,045	7,070,509	8,277,255	6,551,420	4,412,166	5,639,087	83,341,244
Miscellaneous fish.....	10,585	1,690	---	---	14,290	20,285	9,370	60,090	36,095	18,380	10,170	3,205	184,160
Mollusk:													
Clam, Pismo.....	---	---	---	---	---	192,000	197,520	78,480	---	8,192	49,200	---	525,392
Total pounds.....	13,509,761	11,398,168	13,444,265	16,131,348	14,725,609	14,063,728	12,222,003	13,630,368	12,611,589	11,399,056	8,652,799	9,471,427	151,260,121
Grand total.....	52,166,860	45,166,475	71,454,532	49,325,917	49,569,514	53,604,180	52,703,002	65,922,956	74,366,016	71,763,042	58,177,726	50,442,952	694,663,072

¹ For origin of shipments refer to Table 6.

TABLE 9
Monthly Landings of Commercial Fishing Boats in the Eureka Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Flounder	17,807	1,579	37,166	4,293	2,069	255	18,348	2,014	4,107	13,920	4,860	37,467	143,885
Hake	10,796				6,437	5,935	5,312	25,018	58,186	82,613	12,186		206,503
Halibut, arrowtooth	16,299	14,624	20,756	28,009	88,489	128,504	145,036	103,750	112,153	95,470	30,858	12,982	790,930
Halibut, California						83							83
Halibut, Pacific					874	1,580	643	505	332	946	36		4,916
Herring, Pacific	6,730												6,730
Langcod	3,106	4,967	28,075	30,528	51,362	43,838	81,928	132,519	133,134	69,713	27,972	29,718	636,860
Perch	3,022	2,002	18,793	32,629	67		16,781	15,094	7,663	5,504	1,189		105,227
Rockfish	75,181	169,360	307,879	180,317	267,262	149,860	282,437	362,001	403,395	291,368	182,852	192,053	2,864,465
Sablefish	25,530	572	58,842	85,460	92,813	91,309	127,364	137,535	180,792	170,142	116,670	71,508	1,158,537
Salmon				42,315	508,961	245,480	1,022,565	468,687	148,326				2,436,334
Sanddab	6,994	2,416	16,362	9,825	5,828	2,780	10,203	3,255	3,141	14,327	3,450	15,058	92,639
Shark								45	1,605			73	1,723
Skate			187	2,100	6,000	65							8,352
Smelt	103	427	129	1,204	7,110	35,897	63,679	79,812	64,708	13,909	172	2,608	269,758
Sole, Dover	13,682	920	166,336	432,329	565,853	650,120	1,235,185	1,161,603	1,015,466	734,069	309,007	53,733	6,335,313
Sole, English	61,481	34,790	91,745	88,267	120,832	47,019	66,203	55,030	47,641	141,289	77,489	283,464	1,115,870
Sole, petrale	77,884	33,157	30,653	26,051	36,826	27,654	78,017	68,454	61,203	79,425	65,318	96,100	680,981
Sole, rex	14,823	10,810	21,090	28,149	46,899	27,985	43,158	55,639	59,258	61,115	36,222	29,519	434,667
Sole, sand	146	145	363		60				870	8,399	1,174	5,588	16,745
Sole, miscellaneous	150		40		5,000			15,750	24,432	23,500	6,132	21,895	96,899
Tuna, albacore							4,243	12,080	1,516,436	171,526	25,579		1,729,864
Turbot	1,546	311	135		270		1,140			379		3,413	7,194
Whitebait	354	13,846	30,131	28,900	39,482	20,796	4,603	5,428	2,315			125	145,980
Miscellaneous fish	30						16						46
Crustacean:													
Crab, market						206,031	11,980						11,268,265
Crab, rock	4,034,986	1,276,766	2,273,704	1,171,115	1,049,827								548
Shrimp, ocean					314,932	214,080	424,112	600,648	280,602				1,834,374

Mollusk:											
Clam, gaper	---	---	---	---	---	---	---	---	---	168	---
Clam, Washington	174	254	---	---	---	---	---	---	---	119	---
Octopus	---	---	50	---	---	---	---	---	---	---	---
Oyster, giant Pacific	1,129,800	980,700	1,038,450	609,000	366,450	199,500	296,100	449,400	1,066,800	1,067,040	---
Miscellaneous mollusk	---	3	12	---	---	---	---	---	---	---	---
Total pounds	5,500,624	2,547,649	4,141,621	3,237,573	3,825,949	2,265,780	3,843,030	3,601,767	4,575,165	3,198,802	41,606,770
Waters north of State:											
Fish:											
Flounder	---	---	450	---	40	12	245	---	---	---	---
Hake	---	---	---	---	---	---	---	5,485	---	---	792
Halibut, arrowtooth	---	---	17,512	5,830	15,793	28,437	8,292	14,500	28,000	4,000	1,539
Lingcod	---	---	1,157	339	4,103	12,930	9,272	11,264	19,592	1,204	27,093
Rockfish	---	---	36,975	14,370	34,788	15,946	35,913	29,570	39,785	45,529	178,789
Sablefish	---	---	31,053	15,122	21,133	13,431	2,355	12,057	20,336	23,477	329,203
Salmon	---	---	---	---	1,059	---	---	13	---	---	190,292
Sanddab	---	---	288	142	410	586	518	70	26	---	1,072
Sole, Dover	---	---	183,034	43,101	184,860	109,632	61,356	128,241	166,004	71,743	2,040
Sole, English	---	---	3,055	692	5,073	5,263	3,413	7,803	2,934	195	1,204,695
Sole, petrale	---	---	1,342	1,632	3,205	7,433	11,229	11,169	8,351	3,368	34,815
Sole, rex	---	---	3,246	3,054	7,891	3,099	1,969	3,184	2,415	815	115,873
Sole, sand	---	---	70	---	---	---	---	---	---	---	28,729
Crustacean:											
Crab, market	---	---	---	---	---	---	---	---	---	---	737
Shrimp, ocean	---	---	---	---	---	7,330	---	---	---	6,673	6,673
Total pounds	---	---	278,232	84,282	273,355	204,099	134,562	223,286	287,487	150,331	2,206,913
Grand total	5,500,624	2,547,649	4,419,853	3,321,855	4,105,304	2,469,879	3,977,592	3,825,053	4,362,652	3,205,475	43,813,683

TABLE 10
Monthly Landings and Shipments of Commercial Fish Into the San Francisco Area During 1960¹

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Anchovy.....	31,093	18,129	29,662	37,770	29,875	20,145	16,180	7,755	600	21,550	19,395	59,466	600
Carp.....			14	227		25	455	85	25,985		70	145	317,005
Cracker, white.....	85	2,305	14,520	3,470	1,740	10,545	15,775	9,075	13,000	7,030	18,770	3,875	3,454
Flounder.....					1,125	8,925	15,970	12,855	5,035	9,615	11,045	3,040	100,190
Hake.....													67,610
Halibut, arrowtooth.....	260	1,255	5,105	1,225	2,880	9,595	7,765	2,460	1,135	185		115	31,980
Halibut, California.....	1,675	699	1,874		288	628	921	1,762	1,023	1,298	6,691	5,122	21,981
Hardhead.....	15,006	50,183	30,300	23,008	15,975	2,495	531	1,905	4,800	9,100	7,730	13,100	175,432
Herring, Pacific.....	1,148,705	209,757										3,235	1,354,697
Langcod.....	3,265	5,091	23,961	20,777	43,307	63,551	59,873	53,062	51,340	34,326	16,018	3,718	378,289
Mackerel, jack.....						173	1,488	3,662	562				5,885
Perc.....	3,697	4,415	14,700	5,973			746	1,435	203,115	2,000	1,400	2,190	35,228
Rockfish.....	247,940	201,730	356,536	315,559	348,399	356,118	302,629	218,025	44,065	218,936	261,257	166,803	3,290,047
Sablefish.....	69,350	69,382	104,730	94,060	27,820	33,050	69,700	71,397	95,587	79,131	90,292	95,187	848,224
Salmon.....				135,369	296,774	1,031,376	790,528	539,898					2,889,532
Sanddab.....	6,245	4,765	9,580	6,825	5,265	6,835	15,690	24,435	33,105	28,720	23,405	18,642	183,512
Sculpin, staghorn.....										65	213	38	316
Seabass, white.....	688	1,518	6,229	240		977	3,266	4,506	26,149	19,679	8,964	7,874	64,152
Shark.....	1,655	1,400	7,775	11,450	5,250	7,665	8,890	13,450	17,806	12,338	10,303	6,861	68,404
Skate.....									5,300	8,140	14,186	7,000	92,161
Smelt.....	789	3,856	3,037	6,410	1,824	2,324	2,900	7,955	2,181	867	210	145	32,568
Sole, Dover.....	87,237	145,496	194,368	472,209	164,702	77,226	47,724	43,700	100,499	49,353	58,506	88,872	1,529,952
Sole, English.....	27,796	21,223	42,716	27,335	24,840	46,884	41,984	96,111	130,000	111,530	83,809	74,481	729,309
Sole, petrale.....	66,399	38,125	38,125	21,825	28,070	55,256	56,115	70,613	70,920	89,858	62,298	163,367	761,391
Sole, rex.....	59,154	74,392	63,370	30,211	29,595	29,655	19,405	24,865	30,440	43,140	33,331	49,013	486,571
Sole, sand.....	265		510	940	835	2,495	2,265	5,350	7,095	7,355	19,405	7,710	54,225
Sole, miscellaneous.....						6,315		4,175	3,355	11,120	7,660	3,785	36,410
Spittail.....	353	159	40									123	675
Tuna, albacore.....							31,801	1,153,037	815,263	958,421	59,983	16,475	3,035,070
Turbot.....	1,770	1,105	1,453	1,970	1,505	2,020	4,995	8,195	6,605	7,675	11,585	4,090	52,968
Whitebait.....	883	2,944	2,892	3,700	4,221	2,967	405	96	151				18,229
Miscellaneous fish.....					10	10	30	34					84

Crustacean:											
Crab, market	404,868	218,653	336,742	344,283	289,974	90	---	---	---	---	---
Shrimp, bay	---	---	---	---	25,596	4,644	8,102	7,945	215	395	425,189
Shrimp, ocean	---	---	---	---	---	---	---	---	---	---	135
											110,252
Mollusk:											
Abalone	1,700	---	3,050	2,900	1,400	4,175	2,300	2,425	1,825	775	825
Octopus	55	---	70	80	140	50	---	130	---	40	180
Oyster, eastern	640	624	501	112	75	---	---	---	---	---	745
Oyster, giant Pacific	26,008	18,014	17,336	24,732	26,906	12,082	21,462	13,524	19,984	27,900	120
											27,689
Total pounds	2,212,851	1,179,640	1,309,265	1,503,270	1,375,391	1,801,296	1,550,165	2,404,935	1,773,288	2,204,944	1,260,910
											20,439,209
SHIPMENTS:²											
Fish:											
Shad	---	---	---	---	---	---	---	---	---	---	---
Tuna, albacore	99,980	139,630	162,230	202,640	346,200	242,900	4,593	345,480	57,152	652,730	558,530
Tuna, bluefin	23,220	---	---	238,000	347,868	---	198,520	---	---	---	---
Tuna, oriental	---	10,000	---	2,010	199,670	---	388,260	---	---	---	---
Tuna, skipjack	---	---	27,300	---	---	---	---	109,853	---	---	---
Tuna, yellowfin	1,693,370	1,547,248	1,805,620	1,416,890	1,589,514	2,126,510	1,431,490	2,088,431	906,806	1,368,861	1,524,243
Total pounds	1,816,570	1,696,878	1,995,150	1,859,540	2,483,252	2,369,410	2,022,863	2,543,744	963,958	2,021,600	2,082,773
											23,824,168
Grand total	4,029,421	2,876,518	3,304,415	3,452,810	3,958,643	4,170,706	3,573,028	4,948,679	2,737,246	4,226,544	3,343,683
											44,263,467

¹ Includes Sacramento area landings.² For origin of shipments refer to Table 6.

TABLE 12
Monthly Landings of Commercial Fishing Boats in the Santa Barbara Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Anchovy	35,783	5,775	54,819	3,395	490	7,455	1,610	1,400	3,465	61,554	25,077	1,925	95,515
Barracuda, California	508	36,114	102	4,656	179	20	273	27,743	56,658	19,942	14,175	1,255	305,010
Bonito	---	---	---	14	75	---	146	5,807	21,362	---	---	43,183	105,336
Cabezon	---	---	395	40	---	---	---	---	61	---	---	---	496
Croaker, white	---	---	---	---	---	---	---	---	---	205	---	28	233
Flounder	119	53	810	232	---	---	2	---	---	150	97	44	1,507
Hake	---	---	---	---	---	7,410	---	---	---	---	---	---	7,410
Halibut, California	23,192	20,897	34,244	17,553	17,004	15,738	15,553	14,340	6,252	9,558	8,642	23,902	206,875
Lingcod	17,933	9,953	7,177	7,292	18,506	18,506	18,599	6,317	5,042	4,226	6,477	---	115,148
Mackerel, jack	1,001,920	1,298,300	1,033,300	325,450	291,000	416,080	140	423,961	794,830	425,631	5,553,220	1,634,075	13,197,997
Mackerel, Pacific	203,000	19,630	52,900	---	---	---	25,990	165,410	1,003,300	1,650,780	181,600	749,800	4,052,410
Perch	883	356	1,782	321	---	---	365	1,517	2,270	584	328	493	8,890
Pompano, California	---	---	---	---	---	---	354	---	---	---	---	---	354
Rockfish	108,747	145,732	209,154	233,254	222,686	258,319	250,886	115,114	221,607	338,060	394,545	325,506	2,823,400
Sablefish	1,270	1,774	3,368	545	1,110	4,480	6,130	100	1,575	---	651	1,395	22,398
Salmon	---	---	---	1,024	4,640	18,997	12,226	14,365	21,761	---	---	---	73,013
Sanddab	---	227	338	90	---	100	2,499	190	---	---	---	---	3,444
Sardine	80,610	129,100	205,300	213,500	171,925	231,450	251,110	1,515,950	3,698,505	5,528,489	2,558,890	675,905	15,230,734
Sea bass, black	---	822	427	45	---	339	---	25	---	---	396	285	2,339
Seabass, white	89,855	69,082	14,709	6,440	6,530	9,251	11,446	52,542	26,352	29,410	29,461	21,465	366,573
Shark	12,825	3,450	2,165	6,848	3,500	9,017	4,325	4,593	3,158	5,478	12,878	9,730	77,967
Sheep-head	270	159	35	---	---	23	88	---	---	---	132	172	879
Sole, Dover	1,850	1,165	11,532	3,655	3,385	18,805	5,855	1,715	3,570	4,530	3,620	2,525	62,207
Sole, English	8,626	16,946	33,115	18,141	8,482	15,658	42,642	8,446	10,495	11,428	29,039	26,954	230,872
Sole, petrale	98,775	48,094	27,837	28,840	20,920	78,504	115,645	9,542	23,940	15,180	115,713	179,442	759,432
Sole, rex	10,820	8,134	15,167	3,280	1,780	2,470	3,790	645	2,985	3,403	3,754	7,547	63,775
Sole, sand	68	---	1,216	107	---	---	191	---	27	---	---	---	1,757
Sole, miscellaneous	1,476	871	1,437	799	8,640	18,285	17,825	1,380	6,015	9,074	15,536	8,438	89,276
Swordfish	---	---	---	---	---	1,681	6,069	18,635	17,946	9,869	---	---	64,200
Tuna, albacore	---	---	---	---	---	4,281	298,401	1,019,442	123,012	19,035	18	---	1,464,189
Turbot	---	178	525	666	673	---	---	---	---	22	212	---	2,276
Yellowtail	194	1,879	54	4,111	492	718	15	677	5,190	1,383	1,540	---	16,593
Miscellaneous fish	---	---	76	---	---	140	60	---	4,955	4,565	1,822	9,162	20,780

TABLE 13
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Archery	327,260	692,330	569,990	359,665	245,725	73,755	464,215	311,925	345,630	187,746	55,540	108,050	3,741,831
Barracuda, California	---	117	46,082	116,453	187,966	346,736	56,024	19,209	10,297	10,953	11,420	108,498	805,115
Bonito	59,227	293,877	227,966	118,388	20,414	41,401	37,080	149,478	8,218	13,179	93,064	106,810	1,099,102
Croaker, white	633,828	42,875	68,098	25,970	53,277	37,866	27,762	14,176	37,296	14,589	8,468	36,361	1,000,666
Flyngfish	---	---	---	---	14,373	27,006	18,513	9,149	1,080	---	---	---	70,121
Halibut	644	530	---	46	---	37	---	220	---	12	---	1,415	2,904
Halibut, California	4,076	11,786	17,134	16,660	3,118	7,680	1,399	1,250	1,574	8,738	4,658	7,449	85,722
Langcod	84	---	157	76	13	---	---	135	43	---	388	10	906
Mackerel, jack	9,902,872	3,534,533	14,204,543	3,304,129	859,100	565,926	747,747	4,252,262	4,573,510	5,576,395	8,394,047	3,561,453	59,476,517
Mackerel, Pacific	3,230,383	2,034,616	2,555,946	915,130	361,247	726,392	812,284	4,040,840	4,960,134	7,802,074	3,194,031	1,871,797	32,501,874
Opaleye	122	260	---	---	58	188	---	100	---	---	---	580	1,208
Perch	22	---	40	100	---	24	---	---	---	---	26	18	330
Pompano, California	1,720	253	150	1,561	130	2,940	521	---	1,178	---	1,250	1,173	12,776
Rockfish	58,349	60,715	58,817	41,431	43,133	52,174	36,833	24,802	22,751	29,702	47,828	49,893	526,128
Sablefish	---	---	---	220	51	275	---	---	---	---	---	---	546
Salmon	---	---	---	---	---	5,000	460	12	---	10	---	---	5,482
Sanddab	215	---	---	---	581	367	133	72	142	---	---	---	1,510
Sardine	293,175	147,779	194,904	153,745	261,227	49,116	15,110	794,715	10,028,149	10,663,558	5,774,356	1,763,248	30,130,112
Sargo	122	---	---	---	90	10	---	---	---	---	---	---	222
Sculpin	14	249	2,117	714	681	6,328	6,628	3,287	2,228	724	229	765	23,964
Sea bass, black	307	61	493	744	2,767	491	1,856	1,003	543	2,101	374	161	10,901
Seabass, white	10,482	18,742	12,027	35,006	29,075	13,189	45,927	208,833	81,346	28,047	14,688	14,836	512,208
Shark	15,076	7,446	13,185	33,185	40,958	66,219	30,351	20,972	16,086	14,464	12,695	18,490	289,127
Sheep-head	146	72	---	---	160	280	20	28	165	50	69	286	1,246
Skate	---	---	437	513	---	38	---	---	---	---	---	18	1,006
Smelt	18,985	1,997	18,153	3,825	1,163	111	---	217	1,117	5,185	3,945	43,300	97,998
Sole, miscellaneous	---	---	22	37	165	17	86	---	88	216	35	---	666
Swordfish	---	---	---	---	419	50,316	32,219	42,793	74,200	11,072	310	---	211,329
Tuna, albacore	---	---	---	---	---	34,176	2,241,352	12,899,413	3,432,425	1,954,220	62,937	15,336	20,639,859
Tuna, bluefin	141,307	127,574	460	---	42	715,976	1,116,062	212,726	937,648	607,996	465,863	---	4,325,714

[illegible]

TABLE 13—Continued
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
SHIPMENTS:¹													
Fish:													
Sablefish	---	15,000	105,794	---	---	16,123	11,323	64,982	40,916	167,848	63,308	5,696	490,990
Salmon	---	64,692	45,496	---	---	8,148	40,435	59,329	69,087	---	5,694	---	284,733
Shad	---	---	---	---	4,840	---	19,430	---	---	---	---	---	32,418
Sturgeon	---	289	187	---	1,795	---	1,408	---	---	---	2,095	---	5,774
Swordfish	---	---	---	---	1,730	---	---	---	730	---	2,900	1,852	7,212
Tuna, albacore	3,133,537	4,027,762	5,559,747	3,451,464	2,370,268	759,500	724,887	611,550	614,731	1,831,545	2,855,796	2,878,047	28,818,834
Tuna, bigeye	---	---	9,820	---	---	---	---	50,355	---	---	---	1,285	61,400
Tuna, bluefin	---	---	---	99,140	---	---	97,656	---	---	---	---	---	196,796
Tuna, oriental	---	24,449	---	---	---	---	---	---	---	---	---	---	24,449
Tuna, skipjack	1,961,152	1,034,269	252,359	1,939,695	1,047,519	715,056	1,949,702	4,851,838	3,046,696	1,973,834	---	---	18,772,120
Tuna, yellowfin	3,265,536	3,477,937	4,035,328	6,090,062	4,966,705	8,010,043	5,181,111	4,371,992	5,599,234	4,839,841	2,207,583	2,596,993	54,642,365
Miscellaneous fish	10,585	1,690	---	---	14,290	20,285	9,370	60,090	36,095	18,380	10,170	3,205	184,160
Mollusk:													
Clam, Pismo	---	---	---	---	---	192,000	197,520	78,480	---	8,192	49,200	---	525,392
Total pounds	8,370,810	8,646,088	10,008,731	11,580,361	8,407,147	9,721,155	8,232,842	10,148,616	9,407,489	8,839,640	5,196,746	5,487,078	104,046,703
Grand total	33,320,223	33,353,879	55,286,801	35,649,323	33,079,228	35,860,506	37,131,637	39,637,012	52,942,994	52,762,146	36,020,863	34,770,257	479,834,869

¹ For origin of shipments refer to Table 6.

TABLE 14
Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Baracuda, California	261	---	2,683	4,619	23,588	3,284	851	529	426	21	1,412	32	37,706
Bonito	578	40	1,776	1,861	3,043	557	269	1,130	2,304	719	613	919	13,809
Croaker, white	---	---	---	---	---	---	113	---	47	---	---	---	160
Flyfish	---	---	---	---	---	---	---	---	---	760	---	---	760
Halibut, California	4,252	4,245	1,229	7,169	4,027	2,936	---	2,977	2,345	4,201	9,663	4,527	47,604
Mackerel, Pacific	100	135	3,073	458	---	713	363	145	2,840	6,003	7,904	15,529	37,263
Rockfish	8,261	16,443	27,069	27,123	20,634	21,116	15,840	11,254	9,052	12,225	5,700	23,558	198,215
Salmon	---	---	---	---	---	234	---	---	---	---	---	---	234
Sardine	---	---	---	---	---	---	---	---	---	---	---	159,730	159,730
Sculpin	14	14	514	427	341	---	---	---	---	845	1,995	1,089	5,239
Sea bass, black	598	189	382	267	1,007	879	708	231	393	1,559	412	700	7,325
Seabass, white	8,536	16,875	5,382	9,911	5,473	4,002	1,597	10,349	13,369	7,032	2,419	9,026	94,001
Shark	9,794	8,737	5,313	27,815	30,847	31,255	10,833	9,899	3,555	7,044	13,160	19,554	177,806
Sheep-head	22	288	750	43	20	100	64	45	21	163	298	349	2,163
Sole, miscellaneous	---	---	---	11	6	---	103	---	---	---	---	---	120
Swordfish	---	---	---	---	---	7,732	5,261	29,926	3,786	7,909	---	---	54,614
Tuna, albacore	---	---	---	---	---	52,540	925,386	169,290	---	5,701	1,134,843	6,318	2,294,078
Tuna, bluefin	---	6,000	---	---	---	---	7,287	2,486	---	---	---	---	13,287
Tuna, skipjack	---	---	---	---	---	---	---	---	---	---	15	---	2,486
Whitefish, ocean	772	45	---	---	---	---	---	---	---	---	---	24	856
Yellowtail	878	190	325	272	4,937	3,393	8	1,701	4,627	6,431	1,949	390	25,101
Miscellaneous fish	---	56	7	13	313	5	---	---	---	---	---	---	394
Crustacean:													
Crab, rock	428	652	69	---	---	---	---	---	---	344	296	204	1,993
Lobster, spiny	10,721	6,992	7,978	---	---	---	---	---	---	45,325	20,737	15,037	106,790
Mollusk:													
Abalone	24,712	---	67,694	25,308	44,344	63,303	28,882	89,528	53,004	28,455	18,181	27,431	470,842
Clam, jackknife	161	278	564	750	1,174	1,243	723	767	785	345	103	95	6,988
Total pounds	70,088	61,179	124,748	106,047	139,754	193,292	991,004	337,544	96,554	135,082	1,219,760	284,512	3,759,564

TABLE 14—Continued
Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1960

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:—Continued													
Waters south of State:													
Fish:													
Barracuda, California	---	282	---	142	---	---	230	---	---	1,183	3,457	148	5,412
Bonito	---	767	---	---	---	---	---	---	---	3,389	289	---	4,415
Grouper	---	6,748	910	---	735	---	---	---	---	1,206	605	18,824	29,028
Halibut, California	---	295	---	---	142	---	856	3,330	962	3,117	682	16	10,000
Rockfish	---	4,598	8,443	1,835	3,621	---	---	197	---	6,060	235	3,168	28,257
Sea bass, black	---	6,098	---	103	---	---	401	828	4,936	5,470	3,051	7,881	28,768
Seabass, white	---	4,829	---	13	1,094	---	1,557	4,573	42,945	13,168	18,244	21,462	107,885
Shark	---	137	---	---	---	---	---	---	6,471	750	5,650	5,670	18,541
Sheep-head	---	---	---	---	---	---	4,611	---	315	---	---	---	452
Swordfish	---	---	---	---	---	---	---	---	---	---	---	---	4,611
Tuna, albacore	---	---	---	---	---	35,386	444,727	1,499,706	568,565	58,304	27,265	---	2,634,043
Tuna, bluefin	---	---	---	---	---	10,363	622,879	---	---	---	151	---	633,393
Tuna, skipjack	1,865,745	1,166,941	1,418,337	420,046	398,718	1,952,752	540,354	2,095,275	370,656	531,106	1,707,841	943,771	13,413,532
Tuna, yellowfin	1,212,947	1,693,250	2,196,500	949,936	2,057,556	4,093,455	1,205,530	2,689,156	986,554	695,999	1,608,808	1,235,127	20,770,818
Wahoo	---	3,479	1,039	---	---	---	---	---	---	---	---	---	4,318
Whitefish, ocean	---	---	---	83	---	---	---	---	---	260	198	232	773
Yellowtail	---	7,674	1,225	665	9,599	---	1,834	1,223	16,924	5,391	5,723	5,494	55,752
Miscellaneous fish	---	---	---	---	19	---	---	---	---	---	---	---	19
Total pounds	3,078,692	2,861,098	3,626,454	1,373,823	2,471,484	6,082,593	2,300,463	6,917,767	1,998,328	1,325,553	3,472,169	2,241,793	37,750,217
SHIPMENTS:¹													
Fish:													
Tuna, albacore	302,792	953,393	1,280,288	798,156	1,133,965	---	---	9,870	23,756	---	---	2,249	4,480,713
Tuna, bigeye	---	---	---	---	---	---	93,697	---	---	---	---	---	23,756
Tuna, bluefin	---	---	---	---	---	---	---	---	---	---	---	---	33,627
Tuna, skipjack	2,577,439	---	---	799,469	1,457,251	1,256,035	938,227	318,052	468,223	700,685	598,731	381,476	9,585,688
Tuna, yellowfin	442,150	101,809	160,096	1,093,822	1,243,994	717,128	994,444	610,980	743,591	804,773	835,722	1,517,851	9,265,466
Total pounds	3,322,381	1,055,202	1,440,384	2,691,447	3,835,210	1,973,163	1,966,298	938,008	1,235,670	1,595,458	1,434,453	1,901,576	23,389,250
Grand total	6,471,161	3,977,479	5,191,566	4,171,317	6,446,448	8,249,048	5,257,765	8,193,319	3,330,552	3,056,093	6,126,382	4,427,881	64,899,031

¹ For origin of shipments refer to Table 6.

TABLE 15

Value of Landings and Shipments of Commercial Fish Into California by Area, 1960

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
LANDINGS:							
Fish:							
Anchovy	----	600	1,290,657	25,515	3,741,831	----	50,058,603
	----	\$32	\$23,490	\$1,276	\$49,018	----	\$73,816
Barracuda, California	----	----	----	305,010	881,540	43,118	1,229,668
	----	----	----	\$41,847	\$92,738	\$4,933	\$139,518
Bonito	----	----	1,435	105,336	1,125,549	18,224	1,250,544
	----	----	\$144	\$1,855	\$33,765	\$889	\$36,653
Cabezon	----	----	2,564	496	----	----	3,060
	----	----	\$115	\$24	----	----	\$139
Cabrilla	----	----	----	----	11,896	----	11,896
	----	----	----	----	\$2,096	----	\$2,096
Carp	----	317,005	1,594	----	----	----	318,599
	----	\$15,057	\$136	----	----	----	\$15,193
Croaker, white	----	3,454	73,576	233	1,000,696	160	1,078,119
	----	\$375	\$5,886	\$17	\$31,887	\$16	\$38,181
Flounder	145,424	100,190	11,917	1,507	----	----	259,038
	\$7,243	\$4,999	\$1,158	\$87	----	----	\$13,487
Flyingfish	----	----	----	----	70,121	760	70,881
	----	----	----	----	\$15,848	\$274	\$16,122
Grouper	----	----	----	----	225,501	29,028	254,529
	----	----	----	----	\$46,544	\$5,379	\$51,923
Hake	233,598	67,610	16,470	7,410	----	----	325,088
	\$4,672	\$1,007	\$194	\$148	----	----	\$6,021
Halfmoon	----	----	----	----	2,904	----	2,904
	----	----	----	----	\$712	----	\$712
Halibut, arrowtooth	975,699	31,980	----	----	----	----	1,007,679
	\$21,173	\$1,139	----	----	----	----	\$22,312
Halibut, California	63	21,981	3,926	206,875	85,794	57,604	376,263
	\$24	\$4,636	\$979	\$46,919	\$22,726	\$14,873	\$90,157
Halibut, Pacific	4,916	----	----	----	----	----	4,916
	\$1,163	----	----	----	----	----	\$1,163
Hardhead	----	175,432	----	----	----	----	175,432
	----	\$39,559	----	----	----	----	\$39,559
Herring, Pacific	6,730	1,354,697	439,245	----	----	----	1,800,672
	\$168	\$10,295	\$33,558	----	----	----	\$44,021
Lingcod	714,911	378,289	97,819	115,148	906	----	1,307,073
	\$51,045	\$25,989	\$9,048	\$7,462	\$104	----	\$93,648
Mackerel, jack	----	5,885	2,265,144	13,197,907	59,476,517	----	74,945,453
	----	\$386	\$50,276	\$234,923	\$1,296,588	----	\$1,582,173
Mackerel, Pacific	----	----	213,993	4,052,410	32,505,024	37,263	36,808,690
	----	----	\$4,536	\$68,486	\$682,606	\$1,815	\$757,443
Opaleye	----	----	----	----	1,208	----	1,208
	----	----	----	----	\$155	----	\$155
Perch	105,227	38,228	11,494	8,899	425	----	164,273
	\$15,634	\$6,248	\$1,302	\$2,026	\$77	----	\$25,287
Pompano, California	----	----	2,299	354	12,776	----	15,429
	----	----	\$1,323	\$71	\$2,530	----	\$3,924
Ratfish	----	----	600	----	----	----	600
	----	----	\$12	----	----	----	\$12
Rockfish	3,193,668	3,290,047	3,563,595	2,823,400	616,704	226,472	13,713,886
	\$119,134	\$152,511	\$179,803	\$122,856	\$76,016	\$21,927	\$672,247
Sablefish	1,348,829	848,224	199,027	22,398	546	----	2,419,024
	\$81,335	\$29,263	\$9,354	\$1,053	\$44	----	\$121,049
Salmon	2,437,406	2,889,532	815,778	73,013	5,482	234	6,221,445
	\$1,319,093	\$1,579,707	\$897,877	\$38,980	\$2,985	\$122	\$3,338,764
Sanddab	95,679	183,512	64,228	3,444	1,510	----	348,373
	\$7,559	\$10,864	\$3,872	\$208	\$297	----	\$22,800
Sardine	----	----	3,003,143	15,230,734	39,139,112	159,730	57,532,719
	----	----	\$64,568	\$424,937	\$692,762	\$3,546	\$1,185,813
Sargo	----	----	----	----	222	----	222
	----	----	----	----	\$51	----	\$51
Sculpin	----	----	----	----	23,964	5,239	29,203
	----	----	----	----	\$7,232	\$1,298	\$8,530
Sculpin, staghorn	----	316	----	----	----	----	316
	----	\$63	----	----	----	----	\$63
Sea bass, black	----	----	----	2,339	203,258	36,093	241,690
	----	----	----	\$266	\$31,627	\$4,880	\$36,773
Seabass, white	----	64,152	49,961	366,573	553,626	201,866	1,236,198
	----	\$14,716	\$11,671	\$85,411	\$150,474	\$49,442	\$311,714
Shark	1,723	68,404	54,157	77,967	295,593	196,347	694,191
	\$115	\$2,984	\$3,394	\$6,817	\$31,026	\$20,366	\$64,702
Sheep-head	----	----	----	879	1,246	2,615	4,740
	----	----	----	\$45	\$90	\$204	\$339
Skate	8,352	92,161	45,415	----	1,006	----	146,934
	\$4	\$987	\$549	----	\$111	----	\$1,651

TABLE 15—Continued

Value of Landings and Shipments of Commercial Fish Into California by Area, 1960

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
LANDINGS:—Continued							
Fish:—Continued							
Smelt.....	269,758	32,568	28,975	---	97,998	---	429,299
	\$14,931	\$4,347	\$1,822	---	\$3,118	---	\$24,218
Sole, Dover.....	7,543,008	1,529,952	49,647	62,207	---	---	9,184,814
	\$439,003	\$76,498	\$1,807	\$3,595	---	---	\$520,903
Sole, English.....	1,150,685	729,309	264,517	230,872	---	---	2,375,383
	\$82,734	\$48,644	\$18,542	\$14,176	---	---	\$164,096
Sole, petrale.....	796,854	761,391	157,943	759,432	---	---	2,475,620
	\$89,885	\$90,301	\$18,291	\$87,259	---	---	\$285,736
Sole, rex.....	463,396	486,571	93,630	63,775	---	---	1,107,372
	\$27,572	\$28,269	\$4,709	\$3,513	---	---	\$64,063
Sole, sand.....	17,482	54,225	---	1,757	---	---	73,464
	\$1,754	\$5,314	---	\$177	---	---	\$7,245
Sole, miscellaneous.....	96,899	36,410	4,695	89,276	666	120	228,066
	\$1,952	\$630	\$342	\$2,455	\$57	\$18	\$5,454
Splittail.....	---	675	---	---	---	---	675
	---	\$236	---	---	---	---	\$236
Swordfish.....	---	---	---	54,200	211,329	59,225	324,754
	---	---	---	\$24,049	\$96,029	\$25,626	\$145,704
Tuna, albacore.....	1,729,864	3,035,070	2,893,920	1,464,189	21,061,463	4,928,121	35,112,627
	\$213,119	\$400,928	\$366,659	\$193,566	\$3,235,041	\$767,309	\$5,176,622
Tuna, bluefin.....	---	---	---	---	11,305,831	646,680	11,952,511
	---	---	---	---	\$1,378,181	\$78,378	\$1,456,559
Tuna, skipjack.....	---	---	18	---	32,887,658	13,416,018	46,303,694
	---	---	\$2	---	\$3,380,851	\$1,410,023	\$4,790,876
Tuna, yellowfin.....	---	---	---	---	168,536,036	20,770,818	189,306,854
	---	---	---	---	\$20,965,882	\$2,600,506	\$23,566,388
Turbot.....	7,194	52,968	---	2,276	---	---	62,438
	\$717	\$2,637	---	\$181	---	---	\$3,535
Wahoo.....	---	---	---	---	11,399	4,518	15,917
	---	---	---	---	\$3,990	\$1,347	\$5,337
Whitebait.....	145,980	18,229	4,249	---	---	---	168,458
	\$11,548	\$3,036	\$870	---	---	---	\$15,454
Whitefish, ocean.....	---	---	---	---	1,889	1,629	3,518
	---	---	---	---	\$121	\$141	\$262
Yellowtail.....	---	---	---	16,593	151,167	80,853	248,633
	---	---	---	\$1,128	\$14,620	\$6,808	\$22,556
Miscellaneous fish.....	46	84	49	20,780	43,610	413	64,982
	\$3	\$13	\$1	\$438	\$5,540	\$49	\$6,044
Crustacean:							
Crab, market.....	11,274,938	3,369,108	54,680	177,422	---	---	14,876,148
	\$1,772,419	\$695,383	\$12,790	\$36,088	---	---	\$2,516,680
Crab, rock.....	548	---	---	43,379	74,983	1,993	120,903
	---	---	---	\$1,882	\$7,498	\$52	\$9,432
Lobster, spiny.....	---	---	---	61,500	182,742	106,790	351,032
	---	---	---	\$37,399	\$128,121	\$69,991	\$235,511
Prawn.....	---	---	---	147	---	---	147
	---	---	---	\$74	---	---	\$74
Shrimp, bay.....	---	1,580	---	---	---	---	1,580
	---	\$205	---	---	---	---	\$205
Shrimp, ocean.....	1,841,704	110,252	---	74,831	---	---	2,026,787
	\$184,723	\$11,025	---	\$7,618	---	---	\$203,366
Mollusk:							
Abalone.....	---	23,825	3,017	2,858,131	910,593	470,824	4,266,408
	---	\$3,812	\$463	\$380,904	\$73,183	\$37,983	\$496,345
Clam, gaper.....	168	---	320	---	---	---	488
	\$3	---	\$32	---	---	---	\$35
Clam, jackknife.....	---	---	---	---	---	6,988	6,988
	---	---	---	---	---	\$2,983	\$2,983
Clam, Washington.....	1,655	---	---	---	---	---	1,655
	\$240	---	---	---	---	---	\$240
Octopus.....	304	745	---	321	240	---	1,610
	\$6	\$35	---	\$19	\$43	---	\$103
Oyster, eastern.....	---	2,072	---	---	---	---	2,072
	---	\$691	---	---	---	---	\$691
Oyster, giant Pacific.....	9,200,940	262,566	---	1,223,350	---	---	10,686,856
	\$230,024	\$33,583	---	\$24,467	---	---	\$288,074
Squid.....	---	---	2,235,935	---	325,585	---	2,561,520
	---	---	\$64,395	---	\$7,619	---	\$72,014
Miscellaneous mollusk.....	15	---	105	---	---	---	120
	\$3	---	\$11	---	---	---	\$14
Total pounds.....	43,813,683	20,439,299	18,019,737	43,832,285	375,788,166	41,509,781	543,402,951
Total value.....	\$4,698,998	\$3,306,404	\$1,293,981	\$1,904,702	\$32,570,003	\$5,131,178	\$48,905,266

TABLE 15—Continued

Value of Landings and Shipments of Commercial Fish Into California by Area, 1960

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
SHIPMENTS:²							
Fish:							
Sablefish	-----	-----	-----	-----	490,990	-----	490,990
Salmon	-----	-----	-----	-----	\$105,710	-----	\$105,710
Shad	-----	4,593	-----	-----	284,733	-----	284,733
Sturgeon	-----	\$4,086	-----	-----	\$171,505	-----	\$171,505
Swordfish	-----	-----	-----	-----	32,418	-----	37,011
Tuna, albacore	-----	3,040,001	-----	-----	\$2,791	-----	\$6,877
Tuna, bigeye	-----	\$556,624	-----	-----	5,774	-----	5,774
Tuna, bluefin	-----	997,348	-----	-----	\$3,275	-----	\$3,275
Tuna, oriental	-----	\$147,408	-----	-----	7,212	-----	7,212
Tuna, skipjack	-----	\$21,126	-----	-----	\$1,292	-----	\$1,292
Tuna, yellowfin	-----	\$17,073	-----	-----	28,818,834	4,480,713	36,339,548
Miscellaneous fish	-----	\$3,167,646	-----	-----	\$4,847,328	\$774,267	\$6,178,219
	-----	-----	-----	-----	61,460	23,756	85,216
	-----	-----	-----	-----	\$5,894	\$2,851	\$8,745
	-----	-----	-----	-----	196,796	33,627	1,227,771
	-----	-----	-----	-----	\$24,639	\$4,456	\$176,503
	-----	-----	-----	-----	24,449	-----	236,129
	-----	-----	-----	-----	\$2,457	-----	\$23,583
	-----	-----	-----	-----	18,772,120	9,585,688	28,494,941
	-----	-----	-----	-----	\$2,076,196	\$1,012,249	\$3,105,518
	-----	-----	-----	-----	54,642,365	9,265,466	83,341,244
	-----	-----	-----	-----	\$7,119,900	\$1,288,826	\$11,576,372
	-----	-----	-----	-----	184,160	-----	184,160
	-----	-----	-----	-----	\$62,504	-----	\$62,504
Mollusk:							
Clam, Pismo	-----	-----	-----	-----	525,392	-----	525,392
	-----	-----	-----	-----	\$12,977	-----	\$12,977
Total pounds	-----	23,824,168	-----	-----	104,046,703	23,389,250	151,260,121
Total value	-----	\$3,913,963	-----	-----	\$14,436,468	\$3,082,649	\$21,433,080
GRAND TOTAL POUNDS	43,813,683	44,263,467	18,019,737	43,832,285	479,834,869	64,899,031	694,663,072
GRAND TOTAL VALUE	\$4,698,998	\$7,220,367	\$1,293,981	\$1,904,702	\$47,006,471	\$8,213,827	\$70,338,346

¹ Includes Sacramento area landings.² For origin of shipments refer to Table 6.

TABLE 16
Value of Landings by Port,
Eureka Area, 1960

	Value	Pounds
EUREKA AREA TOTALS	\$4,698,998	43,813,683
Eureka		
Market crab	\$682,992	4,344,736
Salmon	496,470	917,859
Giant Pacific oyster	230,024	9,200,940
Dover sole	173,647	2,983,624
Albacore	150,336	1,220,263
Rockfish	28,088	760,769
English sole	25,957	361,011
Petrale sole	23,392	207,374
Ocean shrimp	19,201	191,437
Sablefish	18,774	311,339
Rex sole	12,746	214,219
Lingcod	9,186	128,652
Perch	7,673	51,297
Smelt	5,074	93,092
All other	16,032	318,899
Totals	\$1,899,592	21,305,511
Crescent City		
Market crab	\$807,417	5,136,242
Salmon	411,079	759,943
Ocean shrimp	114,643	1,143,003
Perch	5,929	40,300
Lingcod	5,317	74,464
All other	15,114	242,793
Totals	\$1,359,499	7,396,745
Fort Bragg		
Salmon	\$359,197	664,075
Market crab	115,656	735,725
Dover sole	77,521	1,331,983
Albacore	61,928	502,661
Ocean shrimp	50,879	507,264
Sablefish	32,641	541,304
Rockfish	22,916	611,374
Petrale sole	13,681	121,286
Lingcod	11,218	157,118
English sole	10,375	144,303
Smelt	8,672	154,959
Rex sole	5,168	86,858
All other	6,382	206,821
Totals	\$776,234	5,765,731
Fields Landing		
Dover sole	\$184,853	3,176,168
Market crab	69,617	442,858
Rockfish	64,696	1,738,430
Petrale sole	51,349	455,225
English sole	45,034	626,348
Sablefish	29,864	495,263
Lingcod	25,319	354,609
Arrowtooth halibut	17,126	789,222
Rex sole	9,377	157,591
All other	20,186	402,649
Totals	\$517,421	8,638,363
Trinidad		
Market crab	\$96,737	615,377
Salmon	48,237	87,932
All other	265	2,152
Totals	\$145,239	705,461
All other ports		
Salmon	\$1,013	1,872
Totals	\$1,013	1,872

TABLE 17

Value of Landings and Shipments by Port, San Francisco Area, 1960 ¹

	Value	Pounds
SAN FRANCISCO AREA TOTALS	\$7,220,367	44,263,467
San Francisco		
Yellowfin tuna	\$3,167,646	19,433,413
Albacore	701,744	4,139,398
Market crab	353,420	1,712,308
Salmon	196,954	360,259
Bluefin tuna	147,408	997,348
Rockfish	109,326	2,352,907
Petrals sole	63,975	539,420
Dover sole	60,781	1,215,624
English sole	29,533	442,779
Sablefish	23,715	687,403
Oriental tuna	21,126	211,680
Rex sole	18,691	321,708
Skipjack	17,073	137,133
White seabass	14,439	62,943
Lingcod	12,892	187,660
Sanddab	7,906	133,550
All other	27,149	618,795
Totals	\$4,973,778	33,554,328
Bodega Bay		
Salmon	\$731,863	1,338,693
Market crab	225,636	1,093,199
Rockfish	24,647	524,954
Ocean shrimp	10,905	109,052
English sole	10,244	153,590
Petrals sole	7,384	62,261
Rex sole	7,080	121,863
Dover sole	6,934	138,677
All other	18,761	287,661
Totals	\$1,043,454	3,829,950
Sausalito		
Salmon	\$244,950	448,052
Albacore	85,874	650,562
Market crab	22,141	107,270
All other	154	2,623
Totals	\$353,119	1,208,507
Oakland		
Albacore	\$166,814	1,263,745
Salmon	140,004	256,089
Market crab	13,765	66,693
All other	1,191	22,606
Totals	\$321,774	1,609,133
Point Reyes		
Salmon	\$150,564	275,405
Market crab	45,640	221,125
Giant Pacific oyster	24,589	192,252
Petrals sole	18,925	159,570
Rockfish	18,193	405,537
English sole	8,851	132,695
Lingcod	8,533	124,206
Dover sole	7,822	156,439
All other	10,986	226,674
Totals	\$294,103	1,893,903
Princeton		
Salmon	\$96,123	175,824
Market crab	32,146	155,747
All other	5,833	38,323
Totals	\$134,102	369,894

TABLE 17—Continued

Value of Landings and Shipments by Port, San Francisco Area, 1960 ¹

	Value	Pounds
Clear Lake		
Hardhead.....	\$32,547	144,335
Carp.....	6,404	134,825
Totals.....	\$38,951	279,160
Tomaes Bay		
Giant Pacific oyster.....	\$8,994	70,314
Pacific herring.....	8,774	1,154,500
All other.....	4,520	25,632
Totals.....	\$22,288	1,250,446
Berkeley		
Salmon.....	\$19,249	35,210
All other.....	1,658	8,530
Totals.....	\$20,907	43,740
Turlock		
Hardhead.....	\$6,860	30,422
Carp.....	6,627	139,527
Totals.....	\$13,487	169,949
All other ports		
All other.....	\$4,404	54,457
Totals.....	\$4,404	54,457

¹ Includes Sacramento area landings.

TABLE 18
Value of Landings by Port,
Monterey Area, 1960

	Value	Pounds
MONTEREY AREA TOTALS	\$1,293,981	18,019,737
Moss Landing		
Albacore.....	\$281,769	2,223,908
Salmon.....	269,609	552,703
Pacific herring.....	25,555	334,494
Jack mackerel.....	22,780	1,031,502
Sardine.....	13,480	626,970
Market crab.....	9,478	40,522
Rockfish.....	8,227	147,914
All other.....	15,273	261,725
Totals.....	\$646,171	5,219,738
Monterey		
Rockfish.....	\$168,314	3,369,317
Albacore.....	83,709	660,688
Squid.....	64,395	2,235,935
Salmon.....	51,509	105,717
Sardine.....	50,368	2,342,694
Jack mackerel.....	27,323	1,225,874
Anchovy.....	21,114	1,160,130
English sole.....	17,055	243,300
Petrale sole.....	15,710	135,662
Lingcod.....	5,574	60,263
All other.....	29,033	615,111
Totals.....	\$534,104	12,154,691
Santa Cruz		
Salmon.....	\$76,759	157,358
Pacific herring.....	7,233	94,676
White seabass.....	6,593	28,223
All other.....	23,121	365,051
Totals.....	\$113,706	645,308

TABLE 19

Value of Landings by Port,
Santa Barbara Area, 1960

	Value	Pounds
SANTA BARBARA AREA TOTALS	\$1,904,702	43,832,285
Port Hueneme		
Sardine.....	\$364,961	13,081,044
Jack mackerel.....	234,473	13,172,636
Pacific mackerel.....	68,486	4,052,400
Abalone.....	31,181	234,897
All other.....	11,706	99,399
Totals.....	\$710,807	30,640,376
Morro Bay		
Albacore.....	\$167,136	1,264,266
Abalone.....	135,280	1,008,051
Rockfish.....	87,661	2,008,095
Petrale sole.....	63,977	556,808
Sardine.....	56,404	2,021,650
White seabass.....	41,505	178,135
Market crab.....	31,238	153,578
Giant Pacific oyster.....	24,467	1,223,350
Salmon.....	8,358	15,225
Ocean shrimp.....	7,618	74,831
English sole.....	7,162	116,643
Lingcod.....	6,527	100,723
All other.....	17,883	336,543
Totals.....	\$655,216	9,057,898
Santa Barbara		
Abalone.....	\$172,875	1,305,241
California halibut.....	41,441	182,722
California barracuda.....	35,611	259,558
Rockfish.....	29,834	703,237
Spiny lobster.....	29,476	48,472
Swordfish.....	22,005	49,594
White seabass.....	15,885	68,174
Petrale sole.....	9,737	84,742
English sole.....	6,363	103,625
All other.....	12,762	308,567
Totals.....	\$375,989	3,113,932
Avila		
Salmon.....	\$30,622	57,788
Albacore.....	26,355	199,359
White seabass.....	23,633	101,430
Petrale sole.....	13,545	117,882
Abalone.....	7,670	57,152
Market crab.....	4,850	23,844
All other.....	11,617	170,598
Totals.....	\$118,292	728,053
San Simeon		
Abalone.....	\$17,696	131,860
Totals.....	\$17,696	131,860
Gaviota		
Abalone.....	\$15,692	117,130
Totals.....	\$15,692	117,130
Ventura		
Spiny lobster.....	\$5,874	9,659
All other.....	3,778	23,382
Totals.....	\$9,652	33,041
All other ports		
All other.....	\$1,358	9,995
Totals.....	\$1,358	9,995

TABLE 20
Value of Landings and Shipments by Port,
Los Angeles Area, 1960

	Value	Pounds
LOS ANGELES AREA TOTALS	\$47,006,471	479,834,869
Terminal Island		
Yellowfin tuna	\$28,047,501	222,870,672
Albacore	8,034,728	49,570,134
Skipjack	5,457,047	51,659,778
Bluefin tuna	1,322,758	10,845,842
Jack mackerel	1,041,142	47,758,792
Sardine	664,505	37,542,646
Pacific mackerel	504,225	24,010,706
Bonito	11,815	393,843
Bigeeye tuna	5,894	61,460
All other	15,363	573,743
Totals	\$45,104,978	445,287,616
San Pedro		
White seabass	\$104,329	383,846
California barracuda	85,336	811,179
Bluefin tuna	80,062	656,785
Spiny lobster	64,130	91,471
Rockfish	59,064	479,801
Pacific mackerel	55,208	2,628,943
Grouper	45,083	218,424
Albacore	42,393	275,999
Swordfish	39,409	86,727
Yellowfin tuna	38,087	306,168
Anchovy	37,881	2,891,655
Jack mackerel	34,426	1,579,197
Black sea bass	30,990	199,166
Bonito	21,748	724,936
White croaker	18,371	564,239
Sardine	17,894	1,010,951
Shark	13,652	129,950
California halibut	13,079	49,375
Yellowtail	12,348	127,692
Flyingfish	10,295	45,551
Sculpin	5,835	19,335
All other	13,790	298,333
Totals	\$843,410	13,579,723
Los Angeles		
Salmon	\$171,505	284,733
Sablefish	105,710	490,990
Pismo clam	12,977	525,392
All other	74,054	265,602
Totals	\$364,246	1,566,717
Wilmington		
Jack mackerel	\$158,672	7,278,538
Pacific mackerel	97,865	4,660,227
White croaker	12,212	397,023
Sardine	9,025	509,915
All other	4,871	350,574
Totals	\$282,645	13,196,277
Newport Beach		
Abalone	\$73,007	908,393
Jack mackerel	62,336	2,859,440
Swordfish	50,906	112,030
Pacific mackerel	25,244	1,202,091
Shark	15,802	150,637
Spiny lobster	15,386	21,945
White seabass	14,098	51,870
California halibut	9,163	34,589
All other	13,431	142,817
Totals	\$279,373	5,483,812

TABLE 20—Continued
Value of Landings and Shipments by Port,
Los Angeles Area, 1960

	Value	Pounds
Santa Monica		
White seabass.....	\$27,290	100,404
Spiny lobster.....	10,140	14,463
California barracuda.....	5,273	50,128
All other.....	10,365	156,490
Totals.....	\$53,068	321,485
Long Beach		
Spiny lobster.....	\$16,352	23,323
Rockfish.....	12,868	95,549
All other.....	5,509	104,689
Totals.....	\$34,729	223,561
Redondo Beach		
Rock crab.....	\$7,127	71,273
Spiny lobster.....	5,624	8,022
All other.....	4,815	28,365
Totals.....	\$17,566	107,660
San Clemente		
Spiny lobster.....	\$14,609	20,837
All other.....	303	2,352
Totals.....	\$14,912	23,189
All other ports		
All other.....	\$11,544	44,829
Totals.....	\$11,544	44,829

TABLE 21
Value of Landings and Shipments by Port,
San Diego Area, 1960

	Value	Pounds
SAN DIEGO AREA TOTALS	\$8,213,827	64,899,031
San Diego		
Yellowfin tuna.....	\$3,889,332	30,036,284
Skipjack.....	2,422,272	23,001,706
Albacore.....	1,540,896	9,404,470
Bluefin tuna.....	82,834	680,307
White seabass.....	48,539	198,198
Spiny lobster.....	46,129	70,383
Abalone.....	37,983	470,842
Swordfish.....	25,396	58,693
Shark.....	20,200	194,760
Rockfish.....	15,165	154,576
California halibut.....	14,419	55,845
Yellowtail.....	6,451	76,619
Grouper.....	5,379	29,028
All other.....	23,854	327,082
Totals.....	\$8,178,849	64,758,793
La Jolla		
Spiny lobster.....	\$15,612	23,820
All other.....	287	2,875
Totals.....	\$15,899	26,695
Oceanside		
All other.....	\$9,655	51,594
Totals.....	\$9,655	51,594
All other ports		
All other.....	\$9,424	61,949
Totals.....	\$9,424	61,949

TABLE 22
Statewide Party Boat¹ Catch and Anglers, 1951 Through 1960

Species	Number of fish									
	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Albacore.....	75,924	187,267	23,363	20,098	78,688	65,814	41,540	6,482	39	76,075
Barracuda, California.....	269,545	336,862	170,550	282,552	154,962	87,603	577,184	782,723	1,195,585	755,408
Bonito.....	14,375	7,649	6,221	70,078	22,409	61,404	258,555	422,568	776,386	1,199,919
Halibut, California.....	59,235	34,158	34,292	59,674	35,802	21,661	10,795	15,192	25,385	48,310
Kelp bass ²	781,069	536,075	711,395	876,667	497,343	470,362	609,071	653,671	428,426	478,656
Lingcod.....	24,052	17,389	13,011	22,940	29,113	37,649	38,012	39,801	31,206	28,232
Rockfish.....	721,808	705,761	696,480	1,149,367	1,737,707	2,036,708	1,395,151	1,561,132	1,177,979	1,015,673
Salmon.....	71,970	86,472	98,723	119,911	128,978	114,505	44,701	52,676	55,945	37,941
Seabass, white.....	44,367	41,043	28,182	41,588	30,103	19,755	19,030	34,039	10,593	15,697
Sculpin.....	35,721	39,068	28,952	33,462	28,613	36,558	13,473	13,743	11,477	15,111
Yellowtail.....	23,721	59,263	27,702	40,872	36,468	29,198	242,686	123,384	457,350	254,969
All other.....	228,157	255,126	441,187	557,328	333,697	281,778	249,387	244,469	158,224	164,043
Total number of fish	2,350,644	2,306,133	2,280,158	3,274,537	3,113,883	3,262,995	3,499,585	3,950,880	4,328,575	4,090,034
Number of anglers ³	687,721	726,170	620,050	657,148	612,814	645,878	662,069	636,110	687,974	637,498

¹ Does not include barges.

² Includes sand bass.

³ Figures showing "Number of angler days" in previous catch bulletins have been revised to show "Number of anglers".

TABLE 23
Recorded Catch of Live Bait for Saltwater Sportfishing, 1960

Species	Thousands of pounds ¹
Anchovy.....	9,315
Croaker, white.....	4
Mackerel, unclassified.....	4
Queenfish.....	21
Sardine, adult.....	550
Sardine, juvenile.....	15
Smelt.....	2
Total pounds.....	9,911

¹ Using a conversion factor of 12.5 pounds per live bait scoop, weights are estimated from voluntary records submitted by 16 boats. The weight of a scoop of live bait varies between 10 and 15 pounds. The records represent almost all the live bait landings, however they should be regarded as minimal.

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